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ABSTRACT

Society has changed dramatically over the last few decades and colleges and universities have begun to realize that they will only survive change by increasing their use of new technologies. In order to facilitate the increased utilization of technology, many colleges and universities have begun to hire Instructional Technologists. One problem is that the role, qualifications, and responsibilities of the Instructional Technologist are often ill-defined. This paper proposes various roles the Instructional Technologist can play in higher education and describes the typical activities and qualifications of each role. It also includes a description of ten recent Instructional Technologist position announcements from colleges around the country as well as a discussion of the key questions colleges should ask themselves before hiring an Instructional Technologist. Recommendations for developing an Instructional Technologist position description include: (1) work with faculty, staff, and administration to define the role and prepare a job announcement prior to beginning the hiring process; (2) clearly define the job description, avoiding impossibly broad responsibilities; (3) clearly define the Instructional Technologist's position within the organizational structure; and (4) emphasize the importance of interpersonal and professional skills. (Author/SWC)

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Defining the Role of the Instructional Technologist in Higher Education

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Abstract: Many colleges and universities have begun to hire Instructional Technologists. The role, qualifications, and responsibilities of the Instructional Technologist are often ill-defined. This paper describes the various roles the Instructional Technologist can play in higher education and describes the typical activities and qualifications of each role. The paper includes a description of ten recent Instructional Technologist position announcements from colleges around the country. The paper also includes a discussion of the key questions colleges should ask themselves before hiring an Instructional Technologist. A series of recommendations for developing a position description are included.

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Running Head: Defining the Role of the Instructional Technologist

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Defining the Role of the Instructional Technologist in Higher Education

Overview

An impressive variety of changes in society, technology, and the economy have been exerting pressure on higher education for decades. Direct government subsidies for higher education, never in great supply, have begun to shrink at a rapid pace. Fewer, less experienced, faculty are having to teach an increasingly large number of students. Students are getting older, with many students working at least part time and unable to attend classes full time. In spite of these, and a litany of other changes, the traditionalist in higher education has argued that, in the end, the structure and organization of the university were hallowed and timeless and would endure in spite of any external influences, regardless how powerful.

While the traditionalist view of higher education is still prevalent, many observers, inside and out of academe, have gradually come to see the need for reform. A recent review of higher education *in U.S. News & World Report* (1994) effectively and bluntly described the situation:

> Like it or not, colleges and universities are, in fact, labor intensive enterprises that operate in high cost environments and produce a human product that promises to remain in heavy oversupply for the foreseeable future.....Given the fundamentals, no amount of downsizing, restructuring or tinkering with the economic edges will alter the disheartening outlook.

That disheartening outlook has forced even the most optimistic supporter of higher education to begin to consider alternatives to the present situation. Almost every college

and university has, in recent years, at least begun to explore new and innovative solutions to traditional practices. One of the most commonly discussed alternatives is the increased use of technology.

The Role of Instructional Technology

One of the most powerful and potentially valuable alternatives to the dire state of higher education is to move away from the traditional teacher centered instructional approach to newer, technology-based learning environments. The approach is revolutionary, to be certain, but dire circumstances call for drastic alternatives. *The U.S. News & World Report* review of higher education supported this revolutionary approach:

> Indeed, nothing short of an entirely new vision of the educational process will enable the large majority of schools to control costs...the only real solution to the financial dilemma: a massive, cooperative and foundation-aided development and deployment of instructional technology . . . while the many pedagogical Luddites in the academy still resist the computer as both inhuman and expensive, for Generation S, raised on Ninetendo, MTV, and CompuServe, working with multimedia may be more familiar, flexible, and effective way to learn than sitting in huge classes.

This growing realization that technology can be an important answer to the problems of higher education is tempered by the knowledge that, to date, technology has made a relatively small impact in most colleges and universities. In even the most technologically advanced colleges, most instruction is delivered in the traditional lecture format and technology, if it is used at all, remains an afterthought. The *Chronicle of Higher Education* (1989) described technology's impact:

> Although experiments with technology are under way, on the whole they remain just that -- experiments. The vast majority of faculty members and administrators simply have

> no sense of the implications or the possibilities of using technology to teach, counsel, and administer.

Why has technology made such a small impact in higher education? There are many reasons, of course, including high start up costs, technologically illiterate faculty and administrations, inadequate technological solutions, outdated facilities, traditional mindsets, and general resistance to change. How can colleges increase the use of technology? There are many answers to that question, as well, but the recent trend of hiring Instructional Technologists has shown promise as an effective and cost-efficient method to increasing the use of technology on campus.

Metaphors

What, exactly is an Instructional Technologist? There appear to be many different answers to that important question. The role of the Instructional Technologist is often described in metaphors -- descriptions that relate the job of Instructional Technologist to other, more commonly known, jobs. This section describes several of the most common metaphors for the Instructional Technologist and outlines some of the important activities of each. It should be noted that the following metaphors are not exhaustive or mutually exclusive. There may be other metaphors not described here and it is common for the Instructional Technologist's job to combine, in varying degrees, two or three of the metaphors.

Consultant

The Consultant primarily responds to faculty interests and activities. Rather than setting the agenda, the Consultant works closely with faculty and staff on a variety of projects and provides support, advisement, and input in a number of areas. Typical activities of the Consultant include helping faculty identify and evaluate instructional

software, consulting in the design and development of curriculum materials, identifying appropriate hardware and peripherals, bringing faculty with like interests together, and brainstorming innovative solutions to instructional problems. The Consultant is also often charged with staying abreast of the latest instructional technologies and communicating that information to faculty and university administration. The Consultant may also work closely with administrators and staff in the process of strategic, long term, planning for the integration of technology. The Consultant will often hold a doctorate in Instructional Systems Design or Instructional Technology and may have several years professional experience with information or instructional technology.

CAI Developer

The CAI Developer has primary responsibility for developing computer-assisted instruction and presentations. Often called a Multimedia Specialist, the CAI Developer works with faculty to develop a variety of instructional products. The CAI Developer will typically create interactive instructional modules using such popular authoring systems as Authorware Professional, Macromedia Director, Multimedia Toolbook, IconAuthor, and HyperCard. The CAI Developer should have experience with multimedia peripherals such as scanners, digital cameras, slide scanners, external storage devices (such as tape drives) and projection devices (such as LCD panels). In recent months, the CAI Developer has also come to be tasked with understanding the Internet and developing instruction to be delivered via the World Wide Web. The CAI Developer will typically hold a Master's Degree in Instructional Design or Instructional Technology and may have several years experience in developing computer-assisted instruction in business or industry.

Trainer

The Trainer is primarily responsible for developing, conducting, and evaluating training workshops in areas related to instructional technology. Typical activities of the

Trainer include determining which workshops would be most useful, developing training materials and hand outs, promoting and coordinating workshops, conducting training sessions, and evaluating workshops. Common workshop topics include using the Internet, creating World Wide Web pages, using popular software packages such as Microsoft Office, and developing CAI with HyperCard or ToolBook, for example. The Trainer could hold a Master's or doctorate in Instructional Technology or a related field and usually has several years experience as a Training Coordinator in business and industry or classroom teaching experience in higher education.

Lab Manager

The Lab Manager is primarily responsible for coordinating the hardware and software in one or more computer labs. The Lab Manager will typically serve as network manager, manage the day to day activities of the lab, supervise Lab Assistants, install software, evaluate and purchase hardware and software, combat software piracy and viruses, and consult in the installation of new labs. The Lab Manager will typically have a Master's degree in Instructional Technology or Computer Science and will often have several years experience in the management of networked computer systems in business or education.

Distance Learning Expert

The Distance Learning Expert is primarily responsible for purchasing, installing, and maintaining distance learning equipment. The Distance Learning Expert will typically manage one or more distance learning classrooms, work with vendors and local service providers, manage satellite downlinks, supervise Student Assistants, and provide technical support to faculty using the facilities. The Distance Learning expert may have a Master's degree in Instructional Technology but, since academic training programs in Distance Learning are relatively scarce, will more likely have advanced training in a relevant

technical field. Most Distance Leaning Experts come to the job with several years experience working with compressed video and satellite technology in business, industry, or education.

Some Distance Learning Experts are also tasked with program development and coordination duties. These duties would include lining up faculty to teach distance learning courses, assisting faculty in teaching via distance learning, securing grants for the maintenance and purchase of equipment, evaluating distance learning courses, and working with other institutions in the service area to facilitate shared courses. It is not unusual for Distance Learning Program Coordinators to be faculty from various departments with distance learning experience, often with 1/2 to full release time.

Technician

The Technician is primarily responsible for maintaining, installing, and troubleshooting instructional hardware and software. Common activities of the Technician include the set up, upgrade, and minor repair of personal computers, the installation of software, minor repair of audio-visual equipment, installation of peripherals and projection devices, and coordinating service agreements and major repair projects. The Technician may have a Master's degree in Educational Media, an electronics or technical degree, or several years practical experience in computer and AV repair.

Key Questions

Before writing a position announcement for an Instructional Technologist, it is important to ask several key questions. The answers to these questions will help to define the scope, responsibilities, and qualifications of the position and will effectively focus the position announcement.

Faculty or Administration?

Will the Instructional Technologist work primarily with Faculty or Administration? "Faculty" may seem like the obvious answer but it is important to consider how much time will be devoted to each group. Will the Instructional Technologist be expected to serve on any university-wide committees? If so, which committees and what will be the extent of the participation? Will the Instructional Technologist be expected to work on special projects for key administrators? For example, will the Instructional Technologist be expected to work with Academic Computing in the design of computer labs?

Training or Development?

Will the Instructional Technologist be primarily responsible for developing instructional materials or training faculty and staff? The answer to this fundamental question will go a long way in defining the role of the Instructional Technologist. The development of instructional products is a labor-intensive, time consuming process. If the Instructional Technologist is to serve as a CAI Developer, they will be working very closely with a very small percentage of the faculty. If the Instructional Technologist is to be primarily concerned with development, who will decide the often politically-sensitive question of which faculty projects are developed and which are not? If an Instructional Technologist is to serve as a trainer, then they will have a relatively small amount of interaction with a higher percentage of the faculty.

In practice, of course, most Instructional Technologists will be asked to do both training and development. It is, therefore, very important to consider how much time the Instructional Technologist will be expected to devote to each (20% Training and 80% development, for example).

Reactive or Proactive?

Will the Instructional Technologist be primarily responsible for responding to faculty requests or for setting the technology agenda? The answer to this question should be explicitly stated in the position description. It is possible for the Instructional Technologist to become so valuable and well-known among the faculty that 100% of the Instructional Technologist's time is consumed answering phone and email requests for assistance. Conversely, it is possible for the Instructional Technologist to be so involved in serving on committees, performing special projects, writing grants, conducting training, and installing labs that there is no time left to respond to faculty needs. The Instructional Technologist can find themselves in a "Lose-Lose" situation unless the parameters of the position are made explicit to all concerned parties from the outset.

Hardware or Theory?

Will the Instructional Technologist be expected to have expertise in hardware or theory? Many IT professionals with Master's and doctorates in Instructional Technology have very little hands-on training with the maintenance and operation of computers and networks. These professionals are usually trained in the rather esoteric theories of instructional design, educational psychology, curriculum development, computer-assisted instruction, product evaluation and media selection. While these are undoubtedly useful skills, most faculty do not want assistance developing instruction or specifying objectives. The average faculty person wants someone to help them with their computer, in using specific software, employing multimedia peripherals, and conducting network functions.

The dilemma inherent in the Hardware or Theory question is that most candidates with academic credentials in Instructional Technology are largely unprepared in the practical, hands-on tasks desired by faculty. The solution is to explicitly state the requirement for practical experience with computers and networks in the position announcement.

Campus or School?

Will the Instructional Technologist be expected to work with all departments on campus or specifically with one department of school? If the Instructional Technologist is expected to work most closely with one department (Special Education, for example), it may be important for the position announcement to state that and express a preference for candidates with subject area knowledge as well as instructional technology skills.

Academic or Service?

Will the Instructional Technologist hold an academic (faculty) position or a service position? If the position is a faculty appointment, will it be a tenure-earning position? What academic department will the assignment be to? What percentage of the faculty assignment will be for teaching and how much for service? If the position is a tenure-earning, 100% service position, is there a method in place for evaluating and reviewing progress towards tenure for such a position? If the Instructional Technologist will hold a service position, what department will the position be in and who will supervise the position?

Recent Examples

Many colleges and universities have begun to hire Instructional Technologists. Several position descriptions for Instructional Technologist positions have begun to appear in the *Chronicle of Higher Education* and other higher education job banks. For purposes of this paper, the author analyzed ten recent examples of Instructional Technologist position descriptions. The results of the analysis are shown in Table 1.

The 10 examples in Table 1 were taken from the on-line Job Placement Center of the Association for Educational Communications and Technology (AECT) Home Page on

#	University	Title	Responsibilities	Qualifications	Metaphor
1	Albion College (Michigan)	Instructional Technology Coordinator	Support the products that are used by faculty for instruction and research, plan development activities, organize workshops	Bachelor's degree in a field related to the Sciences, one year experience in computer training and support	Consultant / Trainer
2	Daytona Beach CC (Florida)	Director of Instructional Development	Establishes and coordinates curricular and instructional development projects providing support for faculty and staff	Master's degree or doctorate in instructional development, curriculum design, educational technology	Consultant / CAI Developer
3	Moraine Valley CC (Illinois)	Coordinator Instructional Technologies	responsible for operation of Instructional Technologies areas and for providing technical support for Distance Learning Classroom	Bachelor's Degree in education, experience working with AV/compressedvideo/closed-circuit TV/satellite downlink	Distance Learning Expert
4	New York University School of Education	Faculty Position (Rank Open)	Teaching, research, service, advisement, provide strong leadership in the integration of educational media and technology	Earned doctorate in educational communication and technology, excellence in teaching, scholarship, instructional media development	Consultant
5	Ohio University College of Osteopathic Medicine	Coordinator, Faculty/Curriculum Development	Coordinates, conducts and evaluates faculty development activities, assists with curriculum design and evaluation	Doctorate in education, psychology, one-two years experience teaching or faculty/curriculum development	Consultant / Trainer / CAI Developer
6	Sul Ross St. University (Texas)	Educational Technology Specialist	Train faculty in emerging instructional technologies, establish interactive media training lab, develop CAI, maintain inventories of equipment	Bachelor's or Associates' in Computer Science, current knowledge and demonstrated experience in new instructional technologies	All
7	University of Michigan - Dearborn	Education Technology Specialist (Non-tenure faculty)	Provide technical expertise and support to an interactive television based (not Internet) distance learning network	(Not specifically stated)	Distance Learning Coordinator / Consultant
8	University of Texas at Arlington	Technology Specialist (Tenure Track Assistant Professor)	teach cutting edge multi-media technology/computer literacy , help teacher educators integrate technology into the classroom	Earned doctorate, evidence of 3 years of teaching in elementary or secondary schools, experience with educational technology	Consultant / CAI Developer
9	Warren County CC (New Jersey)	Director of Instructional Technology and Career Programs	provide leadership for academic instructional technology and will develop career degree/certificate programs	master's degree in instructional technology, education, or career related field. Five years experience in instructional technology	Consultant
10	Western Carolina University (North Carolina)	Instructional Technology Specialist	develop and implement an ongoing training and education program for faculty	Master's degree in education, doctorate preferred, successful teaching experience, professional multimedia preparation	Trainer

Table 1. Information related to 10 Instructional Technologist positions in higher education. Taken from the Association for Educational Communications & Technology on-line job announcements during January, 1996 (gopher://sunbird.usd.edu:72/11/jobs)\

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the World Wide Web (gopher://sunbird.usd.edu:72/11/jobs). The position announcements appeared on the AECT Home Page in January of 1996. A complete list of the ten position announcements analyzed for this paper is available by contacting the author.

Table 1 shows that of the ten Instructional Technologist position announcements, the Consultant, Trainer, and CAI Developer metaphors were the most commonly used. Eight of the ten announcements described a position that consulted closely with faculty in various instructional activities. Four of the announcements described training as a primary responsibility of the Instructional Technologist and four described a primary responsibility as CAI development. Interestingly, six of the ten announcements included multiple primary responsibilities such as training and CAI development or consulting and training.

Of the nine position descriptions that explicitly stated a level of academic training, three required a doctorate, three required a Bachelor's degree, two required a Master's degree and one required a Master's or doctorate. Many of the announcements expressed a desire for the Instructional Technologist to have from 1 to 5 years experience in areas related to computers, teaching, or technology. Table 1 does not include a discussion of salary, but five of the ten announcements did specify a salary. These salaries ranged from $21,540 to "the mid 40's."

Recommendations

The following recommendations are provided to help in defining the role of the Instructional Technologist and crafting an effective position announcement:

1. Work With Faculty, Staff, and Administrators in Defining the Role of the Instructional Technologist and Developing a Position Announcement Before Beginning the Hiring Process.

As with any new position, there are many stakeholders in the decision to hire an Instructional Technologist. Seeking input and advice from all the stakeholder groups will assist in defining a role for the new position that is responsive to the needs of the various groups. Also, discussing the key questions and metaphors described in this paper will give all the stakeholder groups an insight into the scope of the position and help to avoid problems after the new person is actually brought on board.

2. *Clearly Define the Instructional Technologist Job Description and Avoid Impossibly Broad Responsibilities*

There is a tendency when writing job descriptions in general, and Instructional Technologist descriptions in particular, to include so many responsibilities that no one person could satisfactorily conduct them all. Instructional Technologist job descriptions are often broad, ambiguous, and ill-defined. One result of this ambiguity is the receipt of a large number of applications, most of which are not even remotely qualified for the position. Another result of ambiguity is inflated expectations form various stakeholder groups. An ambiguous job description could allow each stakeholder group to believe that the Instructional Technologist's time will be devoted primarily to them. As a result, when a person is actually hired, they are put in the impossible situation of having to be "all things to all people." A clearly written announcement that explicitly states specific responsibilities and qualifications will eliminate most of these problems.

3. *Clearly Define the Organizational Position of the Instructional Technologist.*

Instructional Technologist position announcements often call for time to be split between two departments. For example, the Instructional Technologist may report 1/2 time to Academic Computing and 1/2 time to the College of Arts & Science. This arrangement often results in problems related to administrative and clerical support, tasking, performance review, and promotion, advancement, and salary. The best plan would

probably be to avoid having the Instructional Technologist report to two units, but the political and fiscal reality at many colleges often make such an arrangement necessary. When a splitting of time is required, a clear arrangement that specifies time, tasking, support, and advancement criteria should be in place before the review and hiring process is begun.

4. Emphasize Interpersonal and Professional Skills When Hiring an Instructional Technologist

In a very real and important way, the job of the Instructional Technologist is concerned more with people than with technology. The job of facilitating the introduction of technology into higher education requires, above all else, the ability to get along with people. The Instructional Technologist will have to work closely with a wide variety of people ranging from technological Luddites who hate and fear innovation and want nothing to do with technology to technological Utopians who see the latest innovation as the next great solution to every problem. The Instructional Technologist must be sensitive to the ideas, ambitions, hopes, fears, and needs of diverse people within the inherently diverse setting of a modern university. Interpersonal and professional skills, especially written and verbal communication skills, are the most important and often used tools of an effective Instructional Technologist.

Summary and Conclusion

In summary, higher education is rapidly changing. Society has changed dramatically over the last few decades and colleges and universities are slowly beginning to realize that they will have to change in order to survive. A common realization in higher education is that an increased utilization of innovative technologies is essential to meet the educational demands of a changing society. In order to facilitate the increased utilization of

technology, many colleges are hiring Instructional Technologists -- professionals with a wide set of training, qualifications, and responsibilities. Before hiring an Instructional Technologist, colleges should clearly define the role and scope of the position. Overly broad, ambiguous, or ill-defined position descriptions can hinder the effectiveness of the Instructional Technologist and impede the integration of technology. On the other hand, a well-defined position description can result in the hiring of a valuable professional who will be an effective and cost-efficient force for change.

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